

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re: application of:	:
Jason Zapf	:
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Serial No. 10/695,280	:
	:
Filed: October 28, 2003	:
	:
For: Silica-coated Boehmite Composites	:
Suitable for Dentifrices	:
	:
	:
X	:

Commissioner for Patents  
P.O. Box 1450  
Alexandria VA 22313-1450

**AMENDMENT**

This Amendment is being filed in response to the Office Action dated December 20, 2005 in the above-identified application. This response is being filed electronically before May 20, 2006, along with a request for a two-month extension of time.

**Amendments to the Specification** There are no such amendments in this paper.

**Amendments to the Claims** are reflected in the listing of claims, which begins on page 2 of this paper.

**Remarks/Arguments** begin on page 5 of this paper.

**Amendments to the Claims:**

This listing of claims will replace all prior versions, and listings, of claims in the application:

**Listing of Claims:**

1. (Presently Amended) A composite material comprising a boehmite substrate coated with a precipitated silica, the composite having an Einlehner abrasion value of about 15 mg lost/100,000 revolutions to about 30 mg lost/100,000 revolutions, and a BET specific surface area of from 1 m<sup>2</sup>/g to 50 m<sup>2</sup>/g, such that the composite material has a %silica coating parameter value of ~~about~~ 5% to ~~about~~ 50%.
2. (Original) The composite material according to claim 1, wherein the composite material has a median particle size of about 1μm to about 20μm.
3. (Original) The composite material according to claim 1, wherein the composite material has a median particle size of 1μm to 10μm.
4. (Cancelled)
5. (Original) The composite material according to claim 1, wherein the boehmite substrate has a median diameter of 1 μm to 20 μm.
6. (Original) The composite material according to claim 1, wherein the boehmite substrate has a median diameter of 1μm to 5μm.
7. (Original) The composite material according to claim 1, wherein the boehmite substrate has an Einlehner abrasion value of about 10 mg lost/100,000 revolutions to about 65 mg lost/100,000 revolutions.
8. (Original) The composite material according to claim 1, wherein the composite has a BET surface area of 1 m<sup>2</sup>/g to 10 m<sup>2</sup>/g.

9. (Original) The composite material according to claim 1, wherein the %silica coating value is between ~~about~~ 15% to ~~about~~ 40%.

10. (Original) The composite material according to claim 1, wherein the composite material has a %CPC compatibility value of greater than about 40%.

11. (Original) The composite material according to claim 1, wherein the composite material has a %CPC compatibility value of greater than about 55%.

12. (Original) The composite material according to claim 1, wherein the composite material has a %CPC compatibility value of greater than about 75%.

13. (Original) The composite material according to claim 1, wherein the composite material has a fluoride compatibility value of greater than about 40%.

14. (Original) The composite material according to claim 1, wherein the composite material has a fluoride compatibility value of greater than about 80%.

15. (Original) The composite material according to claim 1, wherein the composite material has a CPC compatibility value of greater than about 40% and a fluoride value compatibility of greater than about 40%.

16. (Original) The composite material according to claim 1, wherein the composite material has a CPC compatibility value of greater than about 70% and a fluoride compatibility value of greater than about 80%.

17. (Presently Amended) A dentifrice containing a composite material comprising a boehmite substrate coated with a precipitated silica, the composite having a BET specific surface area of from 1 m<sup>2</sup>/g to 50 m<sup>2</sup>/g, such that the composite material has a %silica coating parameter value of ~~about~~ 5% to ~~about~~ 50%, and wherein the dentifrice PCR/RDA ratio is greater than 1.2.

18. (Presently Amended) The dentifrice according to claim 17, comprising about 10% to about 35% by weight of the composite particles based on the weight of the dentifrice.

19. (Cancelled)

20. (Original) The dentifrice according to claim 17, wherein the dentifrice PCR/RDA ratio is about 1.2 to about 1.5.

21. (Original) The dentifrice according to claim 17, wherein the dentifrice RDA value is greater than 60.

22. (Original) The dentifrice according to claim 17, further comprising one or more ingredients selected from the group consisting of abrasives, other thickeners, humectants, antibacterial agents, fluorides, flavors, sweeteners, and surfactants.

23. (Cancelled)

24. (Cancelled)

25. (Presently Amended) A method of forming a composite material that includes forming boehmite particles by adding aluminum trihydrate to an aqueous solution and then heating the aluminum trihydrate-containing aqueous solution, under a pressure of about 190 psi to 250 psi to form the boehmite particles, while simultaneously adding an acid to the aqueous solution containing alkali metal silicate, thereby depositing silica, which has a BET specific surface area of from  $1 \text{ m}^2/\text{g}$  to  $50 \text{ m}^2/\text{g}$ , onto the boehmite particles to form a silica-treated boehmite composite material; the composite material having a %silica coating parameter value of about 5% to about 50%.

### **REMARKS**

Claims 1-3, 5-18, 20-22, and 25 are pending in the present application.

By the present amendment, the subject matter of claims 4 and 19 has been incorporated into claims 1 and 17 and claims 4 and 19 cancelled. Several claims have been amended to correct certain informalities that formed the basis of the Examiner's 35 U.S.C. §112 rejection and the Examiner's claim objection. Claims 23-24 have also been cancelled.

No new matter has been added.

### **INFORMATION DISCLOSURE STATEMENT**

The Examiner graciously informed the Applicants that a previous IDS submission failed to include the appropriate foreign references. On May 16, 2006 Applicants resubmitted the IDS with the appropriate PTO-SB/08a (1449) form and with enclosed abstracts of the foreign references. Applicants respectfully request that the Examiner consider the references included therein and return a copy of the initialed and reviewed PTO-SB/08a (1449) form for the Applicants' records.

### **CLAIM INFORMALITY**

The Examiner noted that claim 24 did not end in a period. Claim 24 has been cancelled from the present application.

**REJECTIONS UNDER 35 U.S.C. §112, 2<sup>ND</sup> PARAGRAPH**

The Examiner has rejected claims 1-25 for certain informalities contained in the claims, especially the use of the word "about" with respect to the "% silica coating parameter value" in claims 1, 9, 17, 23, and 25 and the presence of an ambiguous basis weight in Claim 18.

By the present amendment, Applicants have amended claims 1, 9, 17, 18, and 25 in the manner suggested by the Examiner. (Claim 23 has been cancelled).

**REJECTIONS UNDER 35 U.S.C. §102**

The Examiner has rejected claims 1 and 9 under 35 U.S.C. §102(b) as being anticipated by Garg, U.S. Patent No. 6,258,137 B1 ("Garg"). While Applicants strenuously disagree with the Examiner's conclusions in this rejection, Applicants submit that this rejection is now moot because it does not relate to claim 4 and by the present amendment the subject matter of claim 4 has been incorporated into claim 1 and Claim 9 is dependent on claim 1.

The Examiner has rejected claims 1, 8 and 9 under 35 U.S.C. §102(b) as being anticipated by Murrell, U.S. Patent No. 4,708,945. While Applicants strenuously disagree with the Examiner's conclusions in this rejection, Applicants submit that this rejection is now moot because it does not relate to claim 4 and by the present amendment the subject matter of claim 4 has been incorporated into claim 1 and Claims 8 and 9 are dependent on claim 1.

**REJECTIONS UNDER 35 U.S.C. §103**

The Examiner has rejected claims 1-3, 5, 6, 8, 13, 14, 17, 18, and 22 – 24 under 35 U.S.C. 103(a) as being unpatentable over Musselman, U.S. Patent No. 4,781,982.

While Applicants strenuously disagree with the Examiner's conclusions in this rejection, Applicants submit that this rejection is now moot because it does not relate to claims 4 and 19, and by the present amendment the subject matter of claims 4 and 19 have been incorporated into claims 1 and 17 respectively. Claims 2, 3, and 5 – 16 are all dependent on claim 1, and claims 18, and 20-22 are dependent on claim 17. Claims 23 and 24 have been cancelled.

The Examiner has rejected claims 2, 3, 5, and 6 under 35 U.S.C. 103(a) as being unpatentable over Murrell, U.S. Patent No. 4,708,945.

While Applicants strenuously disagree with the Examiner's conclusions in this rejection, Applicants submit that this rejection is now moot because it does not relate to claim 4, and by the present amendment the subject matter of claim 4 has been incorporated into claim 1, and claims 2, 3, 5, and 6 are all dependent on claim 1.

**Allowable Subject Matter**

At page 2 of the Office Action mailed October 9, 2003, the Examiner indicated the claims 4, 7, 10-12, 15, 16, 19-21 and 25 were allowable if rewritten to overcome the

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aforementioned rejections. By the present amendment the claims have been rewritten to place them in condition for allowance.

### CONCLUSION

Reconsideration and withdrawal of the rejection of the claims in view of the remarks provided herein and allowance of the claims being prosecuted are respectfully requested.

Dated: 17 May 2006  
J. M. Huber Corporation  
333 Thornall Street  
Edison, NJ 08837-2220  
(732) 603-3674

Respectfully submitted,

David M. Goodrich  
David M. Goodrich  
Reg. No. 42,592